

REMARKS

By the foregoing amendments, claim 1 has been amended. The amendment to claim 1 does not add new matter. Support for the amendment to claim 1 can be found throughout the specification.

Claim Rejections – 35 U.S.C. § 112, Second Paragraph

The Office rejects claim 1 under 35 U.S.C. § 112, second paragraph, as allegedly indefinite. The Action asserts that it is unclear what claim 1 refers to when it recites “polybutadiene portions.” The Action’s assertion is that the claimed resin composition does not require the presence of “polybutadiene portions,” so it is unclear what portions are being referred to. The Action notes that the claim refers to conjugated diene compound units, but does not specifically refer to polybutadienes.

By the present amendment, Applicants respectfully request submit that the alleged indefiniteness has been corrected.

Claim Rejections – 35 U.S.C. § 103(a)

The Action rejects claims 1-5, 7-11, 12, and 13 under 35 U.S.C. § 103(a) as allegedly obvious over Doki et al. (U.S. Patent Application Publication No. 2002/0115790) in view of Shibata et al. (U.S. Patent No. 5,191,024). Applicants respectfully disagree with the basis for the rejection.

As noted previously, with respect to obviousness rejections, “[a] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct., 1741.

Applicants note that the Office relies upon Doki et al. for allegedly providing all of the teachings of the present claims, except for the random copolymerization that is required by the present claims. For this admittedly missing teaching, the Office relies on Shibata et al. Indeed, the Office expressly notes that Shibata et al. “adds only that the second block is randomly copolymerized.” (Office Action of May 21, 2009, page 7, lines 12-13.)

Thus, to clarify, the Office asserts that Doki et al. teaches all of the elements of the present invention, except that Doki et al. teaches that its block copolymer is *not* randomly copolymerized. The Office asserts that Shibata et al., however, teaches random copolymerization of its block copolymer. The heart of the Office’s rejection is an assertion that a person skilled in the art would read the disclosure of Doki et al. and be motivated to modify its teachings (which are presumably complete), by choosing to replace Doki et al.’s *non-randomly* copolymerized block with the *randomly* copolymerized block of Shibata et al.

The Action asserts that “Shibata teaches that the inventive copolymer can be used in polyoxymethylene and is useful in automotive or electronic moldings, and that it provides good low temperature impact resistance, paintability, and flexibility.” (Office Action of May 21, 2009, page 7, lines 13-16, citations omitted.) That Action further asserts that “[t]hese are clear and distinct benefits to employing the polymer of Shibata in a composition.” (*Id.* at page 7, lines 16-17.) However, Applicants respectfully note that Doki et al. is the publication of a U.S. application that was filed in late 2001, and that Shibata et al. issued as a patent in early 1993. Presumably, if what the Office suggests is true (that a person skilled in the art would have recognized the benefit of using Shibata et al.’s randomly copolymerized block in Doki et al.’s application), then Doki et al. would have employed a randomly copolymerized block – not necessarily even Shibata et al.’s randomly copolymerized block – but a randomly copolymerized block generally. But this is not the case at all – Doki et al. clearly does not teach or suggest the use of any randomly copolymerized blocks (when, according to the Office, the use of such blocks would have provided clear benefits). Applicants respectfully submit that this is evidence of the nonobviousness of the present invention.

Indeed, Applicants respectfully submit that this point highlights an issue Applicants have raised previously with respect to this rejection – that a person of skill in the art would not have

been motivated to incorporate Shibata et al.'s teachings into Doki et al.'s teachings. The thrust of Doki et al.'s teaching is to impart high vibration damping ability and low frictional wear characteristics to polyoxymethylene (POM) resin compositions for use in mechanical components. Doki et al. solves this problem by combining a *specific* thermoplastic elastomer with the POM. Doki et al. states in paragraph [0034] that preferred is a styrene elastomer comprising a polymer segment (a) comprising a vinyl aromatic monomer having a number average molecular weight of not less than 2500 and a polymer segment (b) comprising isoprene or isoprene-butadiene. However, the Office's position in the obviousness rejection is that a person skilled in the art would read Doki et al. and choose to modify this particular styrene elastomer – which Doki et al. had found was the solution to its problem. Applicants respectfully disagree.

The Office also asserts that one skilled in the art would not only have modified Doki et al.'s solution to its own problem, but would have done so by turning to information (Shibata et al.) that was readily available to Doki et al. at the time their patent application was filed. Again, Applicants respectfully disagree. Shibata et al. relates to a hydrogen block copolymer having good moldability, weather resistance, impact resistance, and paintability. In Shibata et al., the hydrogen block copolymer is combined with a resin to provide a composition excellent in impact resistance and appearance. Applicants note that in the Examples of Shibata et al., POM resin was not used. Shibata et al. describes that its compositions can be used for automotive and electronic molding, which Applicants note are merely general structural applications. Applicants respectfully submit that a person skilled in the art would not read Shibata et al. as teaching a composition suitable for use as mechanical working component. In this regard, Applicants note that Shibata fails to mention any gear and sliding components as specific applications. Again, Applicants respectfully submit that a person skilled in the art would not have considered Shibata et al.'s teachings in view of Doki et al.'s teachings., and certainly would not have combined the two or replaced some of Doki et al.'s teachings with those of Shibata et al. Shibata et al. did not provide a solution to any problem Doki et al. sought to solve.

Applicants note that the present specification on page 3 of English text discusses JP2002—194178A, which corresponds to Doki et al. The present specification notes that the composition of JP2002-194178A lacks sufficient shaft hole fusion properties under heavy load,

and further, lacks sufficient oil resistance. Although Shibata discloses that its composition has good low temperature impact resistance, paintability, and flexibility, a person skilled in the art would not have been motivated to combine Doki et al. with Shibata et al. as suggested by the Office. Applicants note that the weaknesses of Doki et al. as noted by Applicants, i.e., poor shaft hole fusion properties and oil resistance, are not solved by the advantages attributed to Shibata et al. of low temperature impact resistance, paintability, and flexibility.

In conclusion, Applicants respectfully submit that it appears the Office has lost sight of whether a teaching *should* be combined or modified, by focusing too heavily on whether it *could* be combined or modified. The Action notes that “Shibata teaches a hydrogenated block copolymer [that is] a hydrogenation product of an (A)-(B) block copolymer where the (B) block is a random copolymer block,” and that, “[this] polymer *meets the criteria of Doki’s copolymer in that it is a copolymer having an alkenyl aromatic block and a diene-alkenyl aromatic block.*” (Office Action of May 21, 2009, page 7, lines 8-12.) Applicants respectfully submit that this misses the mark – the most important question is whether one skilled in the art *would have, or should have used* Shibata et al.’s copolymer in Doki et al.’s teaching.


In support of this point, the Office simply states that “Shibata teaches that the inventive copolymer can be used in polyoxymethylene and is useful in automotive or electronic moldings, and that it provides good low temperature impact resistance, paintability, and flexibility” (Office Action of May 21, 2009, page 7, lines 13-16, citations omitted), and that “[t]hese are clear and distinct benefits to employing the polymer of Shibata in a composition.” (*Id.* at page 7, lines 16-17.) While these may be reasons for employing Shibata et al. in a composition – perhaps Shibata et al.’s own composition – these reasons fall far short of reasons for employing Shibata et al.’s composition in Doki et al.’s teachings.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants submit that all of the claims are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue. Favorable consideration with early allowance of all of the pending claims is most earnestly requested.

Should the Examiner have any questions, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,
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